DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-019011
Date Inspected: 02-Jan-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC)

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name: Li Yang and Zhu Zhong Hai

CWI Present:	☑ Yes	☐ No						
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: OBG Trial Assembly

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Segment 11BE (Partial Height Diaphragm Flange)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Partial Height Diaphragm flange to the Side Panel at FL3 location at Panel Points (PP) 98, PP 99 and PP 100 for Segment 11BE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00592 dated January 02, 2011.

The bolt sizes used were M24 x 65 RC Lot # DHGM240013 and the final torque value established was 540 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Please reference the pictures attached for more comprehensive details.

Segment 11DE (Partial Height Diaphragm Flange)

This QA Inspector witnessed the final bolt tension verification on bolts connecting the Partial Height Diaphragm flange to the Side Panel at FL3 location at Panel Points (PP) 104, PP 105 and PP 106 for Segment 11DE. The QA Inspector verified the bolt tension on a random basis and the results appeared to be in general compliance. The Inspection was performed against Notification No. 00592 dated January 02, 2011.

The bolt sizes used were M24 x 65 RC Lot # DHGM240013 and the final torque value established was 540 N-m.

The Manual Torque wrench used was Serial No. XO2-666.

Segment 11BE (Catwalk)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Catwalk structure which is connected to Bottom Panel T-Ribs at Panel Point (PP) 98 and PP 99 for Segment 11BE at Bottom Panel. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00592 Dated January 02, 2011.

Bolt sizes used were M16 x 45 RC Set# DHGM160021 and final torque required was 180 N-m.

Bolt sizes used were M16 x 50 RC Set# DHGM160011 and final torque required was 200 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

Please reference the pictures attached for more comprehensive details.

Segment 11DE (Catwalk)

This Quality Assurance (QA) Inspector witnessed final bolt tension verification for Catwalk structure which is connected to Bottom Panel T-Ribs at Panel Point (PP) 104 and PP 105 for Segment 11DE at Bottom Panel. Inspected 10% on a random basis and found the tension to be in general compliance. Inspection was performed against the Notification No. 00592 Dated January 02, 2011.

Bolt sizes used were M16 x 45 RC Set# DHGM160021 and final torque required was 180 N-m.

Bolt sizes used were M16 x 50 RC Set# DHGM160011 and final torque required was 200 N-m.

The Manual Torque wrench used was Serial No. XO2-114.

Segment 12AW to Segment 12BW (Bottom Panel, Transverse Splice weld)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW12B-001. The welder identification was 040611 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece marks was identified as the Bottom Panel, at transverse

splice. ZPMC performed repair welding in accordance with Welding Repair Report B-WR-19714 dated Dec 29, 2010.

Please reference the pictures attached for more comprehensive details.

Segment 12AE to Segment 12BE (Deck Panel, Transverse Splice weld)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW12-003. The welder identification was 044515 and observed welding in the 1G (Flat) position using approved Welding Procedure Specification WPS-345-SMAW-1G(1F)-FCM-Repair-1. The piece marks was identified as the Deck Panel, at transverse splice. ZPMC performed repair welding in accordance with Critical Welding Repair Report B-CWR2634 dated Dec 31, 2010.

Please reference the pictures attached for more comprehensive details.

Segment 12AE to Segment 12BE (Side Panel, Transverse Splice weld)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as OBW12D-001. The welder identification was 050289 and observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece marks was identified as the Side Panel transverse splice at Cross Beam side ZPMC performed repair welding in accordance with Welding Repair Report B-WR19739 dated Dec 31, 2010.

Please reference the pictures attached for more comprehensive details.

Segment 12AE (Side Panel and Edge Panel connecting weld)

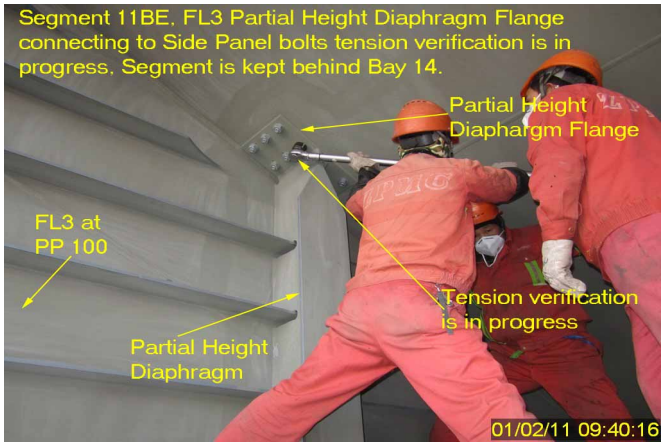
This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as Seg3001AA-022. The welder identification was 050289 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece mark was identified as Side Panel to Edge Panel hold back weld at work point E6.

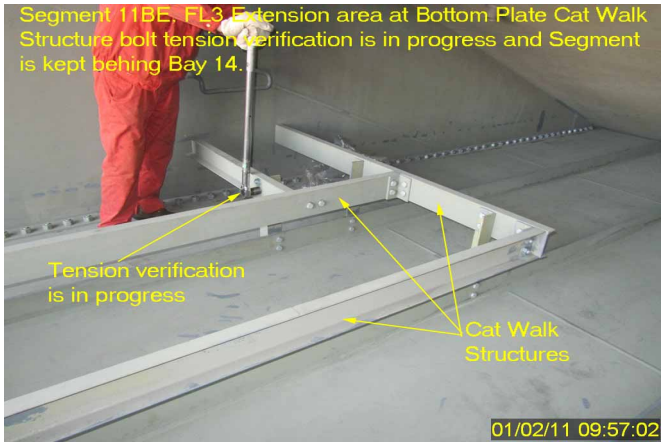
Please reference the pictures attached for more comprehensive details.

Segment 12BE (Side Panel and Edge Panel connecting weld)

This QA Inspector observed the repair welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as CA3002-001. The welder identification was 050289 and was observed welding in the 4G (Overhead) position using approved Welding Procedure Specification WPS-345-SMAW-4G(4F)-FCM-Repair-1. The piece mark was identified as Side Panel to Edge Panel hold back weld at work point E6.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.





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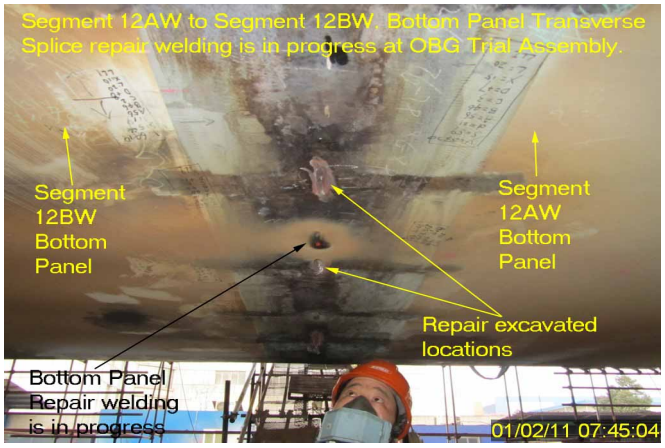

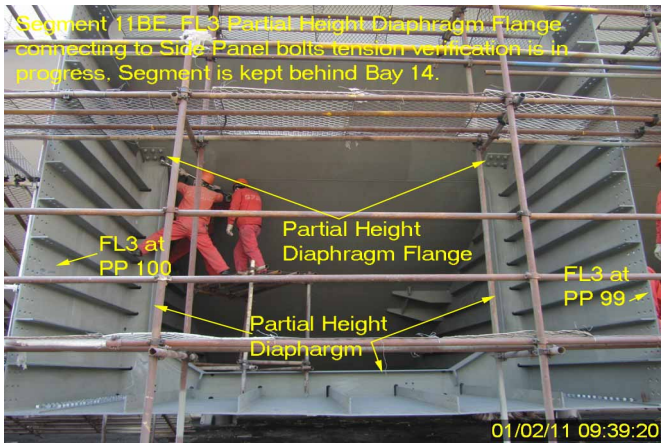

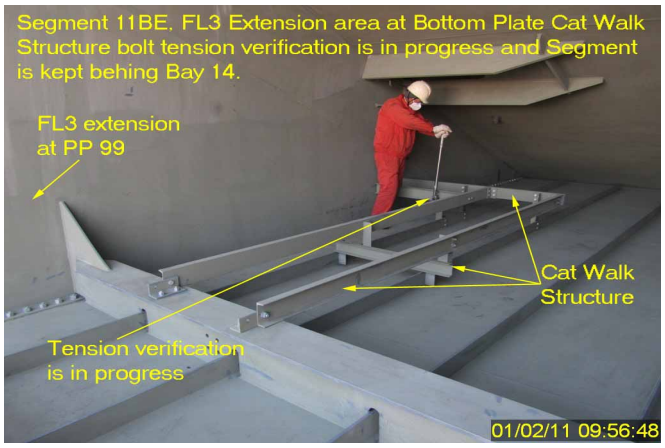

Summary of Conversations:

No relevant conversations were reported on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Math,Manjunath	Quality Assurance Inspector
Reviewed By:	Dsouza,Christopher	QA Reviewer